

or durability and impact resistance of the input device, the substrate is preferably thick. On the other hand, in view of ease of input or detection precision, the substrate is preferably thin. In the first aspect of the invention, in order to meet both demands, a method in which a substrate (the first substrate) at a coordinate input side of the input device is thickened and only a required portion of the substrate is selectively reduced in thickness is adopted. That is, in the first aspect of the invention, a portion including the coordinate input surface of the substrate is reduced in thickness, such that the input load can be reduced and the detection precision can be enhanced. On the other hand, a thick portion (hereinafter, also referred to as a thick-plate region) remains in a frame shape around the coordinate input surface of the substrate, such that impact resistance can be enhanced and the substrate can be easily handled during the manufacturing process. For this reason, operability and reliability, which were problems inherent in the related art, can be enhanced. Further, in such a manner, when the thin-plate region is provided, the weight of the first substrate is also lightened, and thus an input device which is light in weight can be provided.

[0011] It is preferable that the first substrate and the second substrate are bonded by sealing materials which are provided in ring shapes on peripheral portions of the first and second substrates. Further, a circumferential position of the thin-plate region of the first substrate may be arranged, in a plan view, within a region where the sealing material is formed or on a region outside the sealing material.

[0012] In the first aspect of the invention, it is assumed that the above-described input device is mounted on a display surface of an electro-optical panel such as a liquid crystal panel or the like, and the input device and the electro-optical panel are integrally supported and fixed on a case, such as a bezel, in which a window is formed to correspond to the coordinate input surface. However, if end portions of the input device are fixed on such a case, the coordinate input surface of the input device may be pressed due to stress from the case, which results in causing an erroneous input. The first aspect of the invention is intended to suggest a countermeasure against this problem. In accordance with the first aspect of the invention, since the thin-plate region is formed according to the coordinate input surface of the first substrate, the stress from the case is applied to the thick-plate region around the coordinate input surface. Further, in accordance with the first aspect of the invention, the circumferential position of the thin-plate region is arranged on or outside the sealing material and the thick-plate region is arranged on or outside the sealing material. Thus, the stress is applied to a region (that is, a surface other than the coordinate input surface) outside the sealing material which has no relation to the input operation, such that the erroneous input does not occur.

[0013] In accordance with the first aspect of the invention, a liquid material for adjusting a refractive index (for example, a liquid material, such as silicon oil, having a difference in refractive index from glass smaller than that from air) may be sealed into a space surrounded by the first substrate, the second substrate, and the sealing materials.

[0014] As such, an input device in which reflection on an interface is suppressed and has high transmittance can be constructed. Further, the sealed liquid material serves as a

cushion for relieving the input stress. Thus, the impact resistance of the input device is enhanced.

[0015] In accordance with the first aspect of the invention, a buffing member made of an elastic member (for example, a spacer structure made of a soft material such as silicon or urethane) may be provided between the first substrate and the second substrate.

[0016] As such, since the buffing member is provided, the impact resistance of the input device can be increased.

[0017] According to a second aspect of the invention, an electro-optical device includes an electro-optical panel, and the above-described input device that is arranged on a front surface of the electro-optical panel. As the electro-optical panel, a liquid crystal panel which includes a third substrate arranged on the front surface, a fourth substrate facing the third substrate, and liquid crystal interposed between the third substrate and the fourth substrate may be adopted.

[0018] In accordance with the second aspect of the invention, an electro-optical device which has high durability or reliability and which is excellent in detection precision when the input is performed can be provided.

[0019] In this case, the input device and the electro-optical panel may be optically bonded by a transmissive elastic member (for example, a transmissive elastic member, such as silicon gel, acryl gel, urethane gel, urethane rubber, or the like, which has a difference in refractive index from glass smaller than air).

[0020] As such, the reflection on the interface between the electro-optical panel and the input device is suppressed and thus bright display can be performed. Further, since the stress that is applied to the liquid crystal panel when the input is performed is relieved, a display distortion hardly occurs.

[0021] It is preferable that a first optical film (a polarizing plate or the like) is provided on the front surface of the electro-optical panel and is arranged on the thin-plate region that is formed on the first substrate of the input device.

[0022] In accordance with the second aspect of the invention, the electro-optical device is a so-called inner-type electro-optical device in which the liquid crystal panel and the input device are integrated and are arranged between optical films. As described above, in the inner-type electro-optical device of the related art, the plastic film substrate is arranged between the liquid crystal panel and the optical film, and thus an expensive plastic film substrate with no optical anisotropy needs to be used. On the contrary, in accordance with the second aspect of the invention, any of the substrates of the input device is made of the glass substrate, and thus such a problem regarding optical anisotropy does not occur. Therefore, the electro-optical device having the associated configuration can be provided at low cost as compared to the related art. In particular, in accordance with the second aspect of the invention, since the first optical film at the front surface is arranged on the thin-plate region of the first substrate, a thin electro-optical device can be provided as compared to the related art.

[0023] It is preferable that a second optical film (a phase plate or the like) is provided between the electro-optical panel and the first optical film and is arranged on the thin-plate region that is formed on the first substrate of the input device.